

Please amend claim 1 as follows.

1. (amended) In a [Wye-connected] multiple phase electrical system for supplying power from an AC source to [at least one] a plurality of nonlinear [load] loads connected to [a] at least one phase line therein, a device for substantially eliminating currents in the neutral wire [generated by the nonlinear load], said device comprising:

[an] a first electrical circuit comprising

a first passive electrical component connected along a phase line in said electrical system in series [between the AC source and the] with at least one of said nonlinear [load] loads,

a second passive electrical component connected in parallel to said first passive electrical component,

a third passive electrical component connected in parallel to said first and said second passive electrical components; and

wherein said first, said second, and said third passive electrical components of said first circuit are tuned to a harmonic frequency of a fundamental frequency of the AC source so as to substantially eliminate a harmonic current drawn by [the] said at least one nonlinear load connected in series with said parallel connection of said first, said second, and said third passive electrical components.

[Please amend claim 2 as follows.]

2. (amended) A device as recited in claim 1, wherein:

said first, said second, and said ~~third~~ passive electrical components of said first electrical circuit are tuned to a third harmonic frequency of the AC source.

[Please amend claim 3 as follows.]

3. (amended) A device as recited in claim 1, wherein:

said first passive electrical component of said first electrical circuit comprises a capacitor;

said second passive electrical component of said first electrical circuit comprises a reactor; and

said third passive electrical component of said first electrical circuit comprises a resistor.

[Please amend claim 4 as follows.]

4. (amended) A device as recited in claim 2, wherein:

said first passive electrical component of said first electrical circuit comprises a capacitor;

said second passive electrical component of said first electrical circuit comprises a reactor; and

said third passive electrical component of said first electrical circuit comprises a resistor.

[Please amend claim 5 as follows.]

5. (amended) A [harmonic] neutral current eliminating device as recited in claim 1,  
2 wherein:

3 each phase line in the electrical system [is connected] supplies power to at least one  
4 nonlinear load;

5 said device [comprises a plurality of said] includes a second and third electrical  
6 [circuits] circuit, each of said first, said second and said third electrical circuits being  
7 connected along a separate phase line [therein] in said electrical system [and] in series with  
8 at least one nonlinear load whose power is supplied by said separate phase line, [so as to]  
9 said first, said second and said third electrical circuits substantially eliminate a harmonic  
10 current in each of said separate phase lines drawn [thereby] by said nonlinear loads;

11 said second electrical circuit comprises a fourth passive electrical component, a fifth  
12 passive electrical component connected in parallel to said fourth passive electrical  
13 component, and a sixth passive electrical component connected in parallel to said fourth and  
14 said fifth passive electrical components;

15 said third electrical circuit comprises a seventh passive electrical component, an  
16 eighth passive electrical component connected in parallel to said seventh passive electrical  
17 component, and a ninth passive electrical component connected in parallel to said eighth and  
18 said seventh passive electrical components; and

19 wherein each of said first, said second and said third electrical circuits is tuned to an  
20 identical harmonic frequency of the AC source.

[Please amend claim 6 as follows.]

1 6. (amended) A [harmonic] neutral current eliminating device as recited in claim 2,  
2 wherein:

3 each phase line in the electrical system [is connected] supplies power to at least one  
4 nonlinear load;

5 said device [comprises a plurality of said] includes a second and third electrical  
6 [circuits] circuit, each of said first, said second and said third electrical circuits being  
7 connected along a separate phase line [therein] in said electrical system [and] in series with  
8 at least one nonlinear load whose power is supplied by said separate phase line, [so as to]  
9 said first, said second and said third electrical circuits substantially eliminate a harmonic  
10 current in each of said separate phase lines drawn [thereby] by said nonlinear loads;

11 said second electrical circuit comprises a fourth passive electrical component, a fifth  
12 passive electrical component connected in parallel to said fourth passive electrical  
13 component, and a sixth passive electrical component connected in parallel to said fourth and  
14 said fifth passive electrical components;

15 said third electrical circuit comprises a seventh passive electrical component, an  
16 eighth passive electrical component connected in parallel to said seventh passive electrical  
17 component, and a ninth passive electrical component connected in parallel to said eighth and  
18 said seventh passive electrical components; and

19 wherein each of said first, said second and said third electrical circuits is tuned to a  
20 third harmonic of the AC source.

Please amend claim 11 as follows.

11. (amended) A device for reducing currents [substantially eliminating harmonic currents in an electrical system having] in an electrical system which supplies power to a nonlinear load [and] from an AC source], and increasing the operational range of the nonlinear load], comprising:

a first passive electrical component connected in series with the nonlinear load;

a second passive electrical component connected in parallel to said first passive electrical component;

a third passive electrical component connected in parallel to said first and said second passive electrical component;

a housing member for said first, said second, and said third passive electrical components;

means for connecting the nonlinear load to said parallel connection of said first, said second and said third passive electrical components; and

wherein said first, said second, and said third passive electrical components are tuned to a third harmonic frequency of the AC source so as to substantially alter current drawn by the nonlinear load.

Please amend claim 12 as follows.

12. (amended) A device as recited in claim 11, [including] wherein:

[a housing for said first, said second, and said third passive electrical components; and]

said connecting means includes an equipment rack panel member connected to said housing so as to mount said housing in an equipment rack storing the nonlinear load; and  
wherein said equipment rack panel member is substantially perforated so as to allow airflow to pass therethrough.

Please amend claim 13 as follows.

13. (amended) A device as recited in claim 11, [including] wherein:  
[an electrical housing member;]  
said connecting means includes at least one electrical socket for connecting to the  
nonlinear load, said socket being disposed along a first surface of said housing member[;],  
and at least one bracket member for mounting said device along a substantially planar  
surface so that said socket and said first surface of said housing member are substantially  
aligned with said planar surface, said device substantially replacing a conventional wall outlet.

4th main claim

Please amend claim 15 as follows.

15. (amended) A device as recited in claim 11, further including:  
an isolation transformer connected between said AC source and said parallel  
connection of said first, said second, and said third passive electrical components; *and*  
[a housing member having] wherein said connecting means includes electrical  
[connectors] sockets extending therefrom for providing connection to the nonlinear load[;],  
and at least one bracket member for attaching said housing member to a utility cart.

Please delete claim 16 without prejudice and without dedication or abandonment of  
the subject matter thereof.

Please amend claim 17 as follows.

17. (amended) A device as recited in claim 11, including:  
means, connected in series with said parallel [combination] connection of said first,  
said second, and said third passive electrical components, for [clamping] controlling current  
levels drawn by the nonlinear load, comprising a current [clamping] limiting circuit, a  
[sensor] circuit for detecting a rapid rise in current drawn by the nonlinear load and [means]  
a switch for automatically deactivating said clamping circuit based upon signal levels detected  
by said [sensor] current detecting circuit.

[Please amend claim 18 as follows.]

1 18. (amended) A device as recited in claim 17, wherein:  
2 said first, said second, and said third [devices] electrical components are tuned to a  
3 third harmonic frequency of the AC source.

[Please amend claim 19 as follows.]

B4 1 19. (amended) A device as recited in claim 18, wherein:  
2 said current level [clamping] limiting circuit maintains a maximum current level drawn  
3 by the nonlinear load to between approximately 6 and 8 amps[; and  
4 the nonlinear load includes a heating unit].

B5 Please add the following new claims 20-21.

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A device as recited in claim 1, wherein:

1 each phase line in the electrical system supplies power to at least one nonlinear load;  
2 said device includes a second electrical circuit, each of said first and said second  
3 electrical circuits being connected along a separate phase line therein in said electrical  
4 system and in series with at least one nonlinear load whose power is supplied by said  
5 separate phase line, said first and said second electrical circuits substantially eliminate a  
6 harmonic current in each of said separate phase lines drawn by said nonlinear loads;  
7 said second electrical circuit comprises a fourth passive electrical component, a fifth  
8 passive electrical component connected in parallel to said fourth passive electrical  
9 component, and a sixth passive electrical component connected in parallel to said fourth and  
10 said fifth passive electrical components;  
11 wherein each of said first and said second electrical circuits is tuned to an identical  
12 harmonic frequency of the AC source.